

- (a) hydrating 2-hydroxy-4-methylthiobutyronitrile in a sulphuric acid medium to produce 2-hydroxy-4-methylthiobutyramide, wherein the molar quantity of sulphuric acid relative to the 2-hydroxy-4-methylthiobutyronitrile is between 0.6 and 0.88, the molar quantity of water to 2-hydroxy-4-methylthiobutyronitrile is between 1 and 3, and at a temperature of less than or equal to 60°C; and
- (b) hydrolyzing the 2-hydroxy-4-methylthiobutyramide in the presence of an additional quantity of water to produce 2-hydroxy-4-methylthiobutyric acid in a reaction mass.

16. (New) A process according to claim 1, wherein the molar quantity of sulphuric acid relative to the 2-hydroxy-4-methylthiobutyronitrile is between 0.7 and 0.85.

17. (New) A process according to claim 1, wherein the medium of the hydrating step (a) contains less than 5% by weight of 2-hydroxy-4-methylthiobutyric acid.

18. (New) A process according to claim 1, wherein the medium of the hydrating step (a) contains less than 2% by weight of 2-hydroxy-4-methylthiobutyric acid.

19. (New) A process according to claim 1, wherein the medium of the hydrating step (a) contains more than 95% by weight of 2-hydroxy-4-methylthiobutyramide.

20. (New) A process according to claim 1, wherein the medium of the hydrating step (a) contains more than 98% by weight of 2-hydroxy-4-methylthiobutyramide.

21. (New) A process according to claim 1, wherein the molar quantity of water to 2-hydroxy-4-methylthiobutyronitrile is between 1 and 2.5.

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Sub C1  
Sub B2

22. (New) A process according to claim 1, wherein the hydrating step (a) is carried out at a temperature ranging between 0 and 50 °C.

23. (New) A process according to claim 1, wherein the hydrating step (a) is carried out at a pressure ranging between 0.01 and 3 bar.

24. (New) A process according to claim 1, wherein during the hydrolyzing step (b) a sufficient quantity of water is added in order to maintain the reaction mass in a homogeneous form.

25. (New) A process according to claim 24, wherein the minimum quantity of water added is 28% by weight relative to the reaction mass.

26. (New) A process according to claim 1, wherein the hydrolyzing step (b) is carried out at temperature ranging between 90 and 130°C.

27. (New) A process according to claim 1, wherein the hydrolyzing step (b) is carried out at pressure ranging between 0.5 and 5 bar.

28. (New) A process according to claim 15 further comprising:  
supplying the 2-hydroxy-4-methylthiobutyronitrile as a concentrated feed stream during  
the hydrating step (a); and  
maintaining the molar quantity of water to 2-hydroxy-4-methylthiobutyronitrile between  
1 and 3.

29. (New) A process according to claim 21 further comprising:

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A contd

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supplying the 2-hydroxy-4-methylthiobutyronitrile as a concentrated feed stream during  
the hydrating step (a); and  
maintaining the molar quantity of water to 2-hydroxy-4-methylthiobutyronitrile between  
1 and 2.5 .

30. (New) A process according to claim 28 or 29, wherein the concentrated feed stream  
comprises about 80 wt.% 2-hydroxy-4-methylthiobutyronitrile.

31. (New) A process according to claim 15 further comprising:  
supplying the 2-hydroxy-4-methylthiobutyronitrile as a dilute aqueous feed stream during  
the hydrating step (a); and  
maintaining the molar quantity of water to 2-hydroxy-4-methylthiobutyronitrile between  
1 and 3 by evaporating excess water.

32. (New) A process according to claim 21 further comprising:  
supplying the 2-hydroxy-4-methylthiobutyronitrile as a dilute aqueous feed stream during  
the hydrating step (a); and  
maintaining the molar quantity of water to 2-hydroxy-4-methylthiobutyronitrile between  
1 and 2.5 by evaporating excess water.

33. (New) A process according to claim 31 or 32, wherein the dilute aqueous feed stream  
comprises about 50 wt.% 2-hydroxy-4-methylthiobutyronitrile.

34. (New) A process according to claim 31 or 32, wherein the evaporated excess water is  
recycled and used in the hydrolyzing step (b).-

*a' conceded*